

**MINUTES**  
**MICHIGAN STATE TRANSPORTATION COMMISSION WORKSHOP**  
**November 17, 2005**  
**Lansing, Michigan**

Meeting noticed in accordance with Open Meetings Act, Public Act 267 of 1976.

Present:                Ted Wahby, Chairman  
                             Linda Miller Atkinson, Vice Chairwoman  
                             Robert Bender, Commissioner  
                             Vincent J. Brennan, Commissioner  
                             Maureen Miller Brosnan, Commissioner  
                             James R. Rosendall, Commissioner

Also Present:           Gloria J. Jeff, Director  
                             Kirk Steudle, Chief Deputy Director  
                             Larry Tibbits, Chief Operations Officer  
                             Frank E. Kelley, Commission Advisor  
                             Marneta Griffin, Executive Assistant  
                             Jerry Jones, Commission Auditor  
                             Patrick Isom, MDOT Attorney General  
                             John Friend, Bureau Director, Highway Delivery  
                             Myron Frierson, Bureau Director, Finance and Administration  
                             Tim Hoeffner, Administrator, Intermodal Policy

A list of those people who attended the workshop is attached to the official minutes.

Chairman Wahby called the workshop to order at 11:35 a.m. in the Bureau of Aeronautics Auditorium in Lansing, Michigan.

Mark Van Port Fleet introduced Larry Strzalka, Design's Engineer of Specifications and Estimates, who gave a PowerPoint presentation on the Bid Estimating Process with the following information.

Estimates are prepared throughout the project development process at key milestones including: the Project Concept Statement, during the Scope Verification meeting, The Plan Review, the Omissions and Errors check (OEC) (usually at this point the plans are pretty much 100% complete), and when the final package is turned in to the Specifications and Estimates Unit. This unit consists of 3 staff engineers, whose duties include preparing the omission and errors check estimate, the final estimate, requesting obligation of the funds (whether it be federal or state), drafting any addenda needed to respond to questions from bidders, drafting justification letters, and tracking bid trends.

Four main tools are used in preparing estimates: 1) Work Item Reporting System (WIRS) – This system provides up-to-date information on a contractors' bid price; is based on geographic area, time of year, projects let, and the pay item quantity; 2) Trns-port-AASHTO software – This software is used by 41 states and keeps track of bid items; 3) Structure Lump Sum worksheet –

This worksheet is used on bridges for items of work that are paid for on a lump sum basis. Estimators assign a bid price based upon a list quantities being used on the item of work; and 4) Road Cost Estimating checklist – This checklist is submitted by to the Estimators by the Project Manager and it includes information such as detailed schedules, locations of the projects, and other unique project information to assist the Estimator is establishing pay item unit prices.

After estimators receive project information from designers, they use WIRS to determine unit prices for standard pay items, analyze unique pay items independent of WIRS, prepare final estimates, request obligation of funds, and send the project to Contract Services for advertisement. After a project is advertised, the engineer's estimate is only modified for an addendum or for unexpected increase in price of a certain material, e.g. drastic increase in oil prices in early September 2005.

Factors in developing the engineer's estimate include the: bid history (WIRS, Trns-port), type of work (experimental or a new type of work with no bid history), construction schedule, and location of the project. For local agency projects the local agency engineer's estimates are developed by the local agency and their engineer independent of the Specifications and Estimates Unit. The Specifications and Estimates unit provides local agencies with access to the Average Unit Price Reports. Local Agency Programs provides guidance with the estimate in their review process.

Director Jeff interjected that local agency programs, in addition to managing our own projects, are projects in which we assist counties and cities in delivering as well, utilizing their resources and their federal aid.

Mr. Strzalka added that 40-45% of the departments projects that are advertised are local projects.

Continuing....

After the letting, we capture the "as bid" unit prices in WIRS, analyze the bids to identify any trends (this is done whether the engineer's estimate exceeds the low bid, or the low bid exceeds the engineer's estimate), then contact the project manager on those projects where the bids exceed the engineer's estimate by 10%. If it is decided that it is in the department's interest to justify the bid, the same process is used in estimating (type of work, geographic location, multiple locations, construction schedule, recent increases in prices, and whether or not the department will get lower bids if the project is re-advertised and let).

Mr. Van Port Fleet explained two slides that compare the engineer's estimate versus the contractors low bid. The graph compares the estimates generated by the project manager and the final engineers estimate prepared by the Specifications and Estimates Unit. When a project is in the concept stage and the initial estimate is being generated, detailed design information is not yet available so contingency factors are used in the estimating process to allow additional costs for these unknowns. As the project design is completed more exact information is known and the estimate is refined based more accurate information. Upon completion of the project, the project manager completes a final engineer's estimate that is based on average unit prices and some adjustments are made for project specific details. Upon project turn in the Specifications and Estimates Unit review the project estimate and revise the estimates considering statewide trends and other items that influence unit prices such as if the project has incentive/disincentives, warranties, and any unique items the department does not have a bid history. The variance

shown on the graph indicate the increased accuracy of estimating that occurs between the Project Manager final estimate and the final Engineers Estimate generated by the Specification and Estimates Unit. The improvement is a result of the estimators considering recent bidding trends that are not yet available in the electronic estimating systems. We are making incremental improvements in the estimating process. In years past we might have had more high-balled projects, where the estimates had conservative contingencies built into the estimates. Although this normally assured the bids were under estimate it also tied up money that could be used for other projects. It is in best interest of the department to come as close to the target as possible. As we refine our estimates and get closer, there is a likelihood that the Commission might see an increase in the amount of projects that come for justification. The overall trend is that the estimates are getting much more accurate. For FY 2005 out of 470 projects, only 47 (10%) came back to the Commission.

Mr. Strzalka asked for questions.

Chairman Wahby asked Director Jeff how the overruns are covered at the end of a project if it (the overrun) couldn't be accounted for in the budget that is preset.

Director Jeff answered that there are a number of jobs that come in under the engineer's estimate. Because we are conservative in our estimating processes, we end up with substantially more projects under budget than over. This allows us the ability within the dollars to manage them.

Chairman Wahby stated that he is not disputing that, but asked if the Commission could see the information showing how many projects come in under versus over—a whole different picture is painted when they see nothing but overruns coming before them.

Director Jeff stated that the information would be provided.

Commissioner Rosendall asked if it were possible to have a total number that are under and attached to it a total dollar amount, e.g., 420 projects came in under budget but totaled \$28 million under budget.

Mr. Frierson answered that in the 2004-2005 Fiscal Year Letting Statistics presentation during the October meeting, there was a comparison of the number of projects over engineer's estimate and the comparison of dollar amount of total low bids to total of engineer's estimates. On a monthly basis the Commission receives information related to the number of projects actually closed.

Chairman Wahby asked Commissioner Rosendall if he wanted it simplified any more than that.

Commissioner Rosendall answered that it wasn't necessary—he only wants a total dollar amount.

Chairman Wahby asked the Director to simplify the information and provide it to the Commission.

Director Jeff stated she would do so.

Commissioner Brosnan asked, in playing the “game” of over estimating so that they end up with under bids, giving the appearance of balancing out, what is the statistic on how many times they hit the mark.

Mr. Van Port Fleet answered that this is where the plus or minus 10% comes in. The goal of the FHWA is 50%; we are hovering around 60% in the plus or minus 10% category.

Chairman Wahby asked how you guard against (monitor or track) a contractor that bids on the low range but comes back with adjustments later.

Mr. Van Port Fleet answered that looking at the statewide average that is not occurring. You will have projects that didn’t go as well as planned. From a program standpoint, our estimating seems to be pretty good. We are going to have a few projects that go astray for whatever reason.

Director Jeff interjected that the estimating process helps us to monitor contractors that bid on the low side and tend to have adjustments later on. When they come in, if it is outside of what we saw as the original scope and we have already included it, but they want it as an extra, they can ask but the probability of getting a “yes” is relatively low.

Mr. Van Port Fleet stated that the goal is to have the most accurate estimate possible, and we continue to strive to take steps to do this.

Chairman Wahby asked if the contractor sees the engineering estimates for the job.

Mr. Strzalka answered “indirectly”. There is a prequalification amount for every project. This prequalification amount has a numeric rating and a work type classification. The numeric rating helps determine if a contractor has the financial ability to bid on a specific project. The numeric rating for each project is determined by dividing the final engineer’s estimate by 1000.

Commissioner Rosendall asked if we assist the consultants on our projects with estimating.

Mr. Van Port Fleet answered yes. On the local agency side we would review the estimate at project turn it for anomalies. On the trunkline projects consultants are required to submit periodic estimates to us. The department reviews the estimates during project development. The Specifications and Estimates Unit review the estimates at the Omissions and Errors stage of the project and after project turn in just prior to project advertising. At these stages we review current bidding trends and the most recent bids. There are algorithms built within the programs that help in assisting to narrow down which price to use depending on things such as project location and bid item quantity ranges. When a project is brought before the Commission, it is believed that there is not an adjustment that can be made that will make the project come in any less of value than what is presented.

Commissioner Rosendall asked if the department was comfortable in saying that the consultants get the same amount of scrutiny as do our own projects.

Mr. Van Port Fleet answered that when we estimate the project that we go through the same process in estimating and review for consultants as we do for any other project.

Commissioner Rosendall asked if two estimates were done—one by the department and one by the consultant.

Mr. Van Port Fleet answered that the consultant submits their estimate just as any other project manager would. The package is gone through as if it's our own.

Director Jeff asked, in clarifying the Commissioners' question, if 1) the consultants have an independent estimating process that we simply accept or, 2) do they submit their engineering estimate, and that estimate (as though one of our own people had done the estimate) goes through the full process.

Commissioner Rosendall affirmed that that was indeed his question, however stated that his point is if you look at MDOT designed and engineered estimated projects, they are within a few percent. When you throw in the consulting engineering piece, they are much more out of whack.

Mr. Van Port Fleet answered that he would have to go back and statistically look—he couldn't answer it specifically. A lot of it may deal with the complexity of the project.

Mr. Strzalka added that the department doesn't look to see who designed a project in order to determine how much scrutiny to give it—they are all looked at the same.

Commissioner Rosendall stated that he was referring to some graphs given to them which showed projects done one way versus the other way.

Mr. Van Port Fleet responded that he is not sure what graphs the Commission is referring to.

Director Jeff interjected that information was previously provided indicated that of the extras and overruns coming before the Commission, a certain percentage of them are MDOT staff done and another percentage were designed by consultants.

Mr. Van Port Fleet stated that they are not the same thing. Those would show a measurement of change orders in the field. Things that have been adjusted in the field by construction staff to get the job built—this is not a reflection of the final numbers on engineer's estimates.

Mr. Strzalka stated that if something was omitted in the design, we would not know about that.

Mr. Van Port Fleet interjected that the estimating process is not intended to be a quality assurance review of every page in the plan and every page in the proposal.

No further comments were forthcoming.

Chairman Wahby asked if there were anything else the Commission would like to see, besides what Commissioner Rosendall has asked for.

Director Jeff reiterated the request for understanding. The department is being asked to provide the listing of total number of projects and the total number of dollars associated with projects that are underestimated rather than those that are overruns and extras. Director Jeff further stated that

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they would work with the Bureau of Finance and have the information back to the Commission for the January 2006 regular meeting.

No other requests were made.

### **ADJOURNMENT**

There being no further business to come before the Commission, the Chairman declared the workshop adjourned at 12:15 p.m.

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Frank E. Kelley  
Commission Advisor